

45

SEQUENCE LISTING



<110> OOKURA, TETUYA
KASUMI, TAKAFUMI
ASABA, EIJI

<120> ERYTHROSE REDUCTASE, ITS cDNA AND CELL WHICH THE cDNA EXPRESS

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<141> 2002-01-09

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<151> 2001-03-08

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aaa gtg tac caa aac caa tcg gaa att gga gta gca ctt cag gaa ctg	192
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Phe Asp Gln Gly Ile Val Lys Arg Glu Asp Leu Phe Ile Thr Ser Lys	
65 70 75 80	
gta tgg aat aac cgt cat gct cct gaa cat gtt gag cct gca ttg gac	288
Val Trp Asn Asn Arg His Ala Pro Glu His Val Glu Pro Ala Leu Asp	
85 90 95	
gaa aca ttg aaa gaa ctt gga ttg tcc tac ttg gat ttg tac ttg att	336
Glu Thr Leu Lys Glu Leu Gly Leu Ser Tyr Leu Asp Leu Tyr Leu Ile	
100 105 110	
cat tgg ccc gtt gcg ttc aag ttt act acg cct caa gaa cta ttc cct	384
His Trp Pro Val Ala Phe Lys Phe Thr Thr Pro Gln Glu Leu Phe Pro	
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Thr Glu Pro Asp Asn Lys Glu Leu Ala Ala Ile Asp Asp Ser Ile Lys	
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165 170 175	
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225 230 235 240	
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260 265 270	
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Asn Tyr Asp Gln Ile Thr Leu Ser Pro Glu Glu Phe Gln Lys Val Thr	
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Asp Leu Ile Lys Glu Tyr Gly Glu Ser Arg Asn Asn Ile Pro Leu Asn	
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35 40 45

Lys Val Tyr Gln Asn Gln Ser Glu Ile Gly Val Ala Leu Gln Glu Leu
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Phe Asp Gln Gly Ile Val Lys Arg Glu Asp Leu Phe Ile Thr Ser Lys
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Val Trp Asn Asn Arg His Ala Pro Glu His Val Glu Pro Ala Leu Asp
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Glu Thr Leu Lys Glu Leu Gly Leu Ser Tyr Leu Asp Leu Tyr Leu Ile
100 105 110

His Trp Pro Val Ala Phe Lys Phe Thr Thr Pro Gln Glu Leu Phe Pro
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Thr Glu Pro Asp Asn Lys Glu Leu Ala Ala Ile Asp Asp Ser Ile Lys
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Leu Val Asp Thr Trp Lys Ala Val Val Ala Leu Lys Lys Thr Gly Lys
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195 200 205

Asn Ile Val Ile Thr Ala Tyr Ser Pro Leu Gly Asn Asn Val Ser Gly
210 215 220

Lys Pro Pro Leu Thr Gln Asn Pro Gly Ile Glu Ala Thr Ala Lys Arg
225 230 235 240

Leu Asn His Thr Pro Ala Ala Val Leu Leu Ala Trp Gly Ile Gln Arg
245 250 255

Gly Tyr Ser Val Leu Val Lys Ser Val Thr Pro Ser Arg Ile Glu Ser
260 265 270

Asn Tyr Asp Gln Ile Thr Leu Ser Pro Glu Glu Phe Gln Lys Val Thr
275 280 285

Asp Leu Ile Lys Glu Tyr Gly Glu Ser Arg Asn Asn Ile Pro Leu Asn
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Ala Leu Gly Tyr Gly Thr Trp Gln Ala Glu Pro Gly Gln Val Gly Glu	
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Gly Val Lys Leu Ala Val Lys Ala Gly Tyr Arg His Leu Asp Leu Ala	
35 40 45	
aaa gta tac cag aac caa acc gag att ggc caa gct ctc aag gaa ctg	192
Lys Val Tyr Gln Asn Gln Thr Glu Ile Gly Gln Ala Leu Lys Glu Leu	
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ttt gat gag ggt gtt gtc aag cgt gag gac ctt ttc atc act tcc aag	240
Phe Asp Glu Gly Val Val Lys Arg Glu Asp Leu Phe Ile Thr Ser Lys	
65 70 75 80	
ctt tgg aac aac cgc cac gct cct gag cac gtt gag cct gcg ctc gac	288
Leu Trp Asn Asn Arg His Ala Pro Glu His Val Glu Pro Ala Leu Asp	
85 90 95	
gag act ctt aag gag ttg ggt cta tcc tat ttg gac ctg tac ttg att	336
Glu Thr Leu Lys Glu Leu Gly Leu Ser Tyr Leu Asp Leu Tyr Leu Ile	
100 105 110	
cac tgg cct gtt gct ttc aag ttc act act ccc gat gaa ctg ctt cct	384
His Trp Pro Val Ala Phe Lys Phe Thr Thr Pro Asp Glu Leu Leu Pro	
115 120 125	
gct gac cct acc aac aag gac ctt gcc tac att gac gat tcg gtc aaa	432
Ala Asp Pro Thr Asn Lys Asp Leu Ala Tyr Ile Asp Asp Ser Val Lys	
130 135 140	
ttg tcc gac acc tgg aag gcg gtc gtc gcc ctg aaa aag acg ggt aag	480
Leu Ser Asp Thr Trp Lys Ala Val Val Ala Leu Lys Lys Thr Gly Lys	
145 150 155 160	
acc aag tcg gtt ggt gtt tcg aac ttc agc act cgt ctg gtc gac ttg	528
Thr Lys Ser Val Gly Val Ser Asn Phe Ser Thr Arg Leu Val Asp Leu	
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cac ccc ttg ttg caa caa gac gag ttg gtt gct cac cat aag agc aag His Pro Leu Leu Gln Gln Asp Glu Leu Val Ala His His Lys Ser Lys 195 200 205	624
aac att gtc atc act gct tac agt ccc ttg ggc aac aat gtc gct ggt Asn Ile Val Ile Thr Ala Tyr Ser Pro Leu Gly Asn Asn Val Ala Gly 210 215 220	672
aaa cca cct ctg act gag aat ccc ggt att gtg gat gct gct aag cgt Lys Pro Pro Leu Thr Glu Asn Pro Gly Ile Val Asp Ala Ala Lys Arg 225 230 235 240	720
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tac aag cct tcg tgg tct att gac gtc ttt ggt acc cag tac gag gct Tyr Lys Pro Ser Trp Ser Ile Asp Val Phe Gly Thr Gln Tyr Glu Ala 305 310 315 320	960
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35 40 45

Lys Val Tyr Gln Asn Gln Thr Glu Ile Gly Gln Ala Leu Lys Glu Leu
50 55 60

Phe Asp Glu Gly Val Val Lys Arg Glu Asp Leu Phe Ile Thr Ser Lys
65 70 75 80

Leu Trp Asn Asn Arg His Ala Pro Glu His Val Glu Pro Ala Leu Asp
85 90 95

Glu Thr Leu Lys Glu Leu Gly Leu Ser Tyr Leu Asp Leu Tyr Leu Ile
100 105 110

His Trp Pro Val Ala Phe Lys Phe Thr Thr Pro Asp Glu Leu Leu Pro
115 120 125

Ala Asp Pro Thr Asn Lys Asp Leu Ala Tyr Ile Asp Asp Ser Val Lys
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Leu Ser Asp Thr Trp Lys Ala Val Val Ala Leu Lys Lys Thr Gly Lys
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Thr Lys Ser Val Gly Val Ser Asn Phe Ser Thr Arg Leu Val Asp Leu
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Val Glu Glu Ala Ser Gly Glu Arg Pro Ala Val Asn Gln Ile Glu Ala
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His Pro Leu Leu Gln Gln Asp Glu Leu Val Ala His His Lys Ser Lys
195 200 205

Asn Ile Val Ile Thr Ala Tyr Ser Pro Leu Gly Asn Asn Val Ala Gly
210 215 220

Lys Pro Pro Leu Thr Glu Asn Pro Gly Ile Val Asp Ala Ala Lys Arg
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Leu Asn His Thr Pro Ala Ala Val Leu Ile Ala Trp Gly Ile Gln Arg
245 250 255

Gly Tyr Ser Val Leu Val Lys Ser Val Thr Pro Ser Arg Ile Lys Ser
260 265 270

Asn Phe Glu Gln Ile Thr Leu Ser Asp Glu Glu Phe Gln Arg Val Thr
275 280 285

Asn Leu Ile Lys Glu Tyr Gly Glu Ser Arg Asn Asn Val Pro Phe Asn
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Ala	Leu	Gly	Tyr	Gly	Thr	Trp	Gln	Ala	Glu	Pro	Gly	Gln	Val	Gly	Glu	
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Gly	Val	Lys	Leu	Ala	Val	Lys	Ala	Gly	Tyr	Arg	His	Leu	Asp	Leu	Ala	
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His Pro Leu Leu Gln Gln Asp Glu Leu Val Ala His His Lys Ser Lys	
195 200 205	
aac att gtc atc act gct tac agt ccc ttg ggc aac aat gtc gct ggt	672
Asn Ile Val Ile Thr Ala Tyr Ser Pro Leu Gly Asn Asn Val Ala Gly	
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aaa cca cct ctg act gag aac ccc ggt att gtg gat gct gct aag cgt	720
Lys Pro Pro Leu Thr Glu Asn Pro Gly Ile Val Asp Ala Ala Lys Arg	
225 230 235 240	
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Leu Asn His Thr Pro Ala Ala Val Leu Ile Ala Trp Gly Ile Gln Arg	
245 250 255	
ggg tac agc gtc ttg gtc aag tca gtt aca ccc tca cgg atc aag agt	816
Gly Tyr Ser Val Leu Val Lys Ser Val Thr Pro Ser Arg Ile Lys Ser	
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Asn Leu Ile Lys Glu Tyr Gly Glu Ser Arg Asn Asn Val Pro Phe Asn	
290 295 300	
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Tyr Lys Pro Ser Trp Ser Ile Asp Val Phe Gly Thr Gln Asp Glu Ala	
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Lys Ala Thr His Lys Ile Asn Ala	
325	
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Gly	Val	Lys	Leu	Ala	Val	Lys	Ala	Gly	Tyr	Arg	His	Leu	Asp	Leu	Ala	35	40	45	
Lys	Val	Tyr	Gln	Asn	Gln	Thr	Glu	Ile	Gly	Gln	Ala	Leu	Lys	Glu	Leu	50	55	60	
Phe	Asp	Glu	Gly	Val	Val	Lys	Arg	Glu	Asp	Leu	Phe	Ile	Thr	Ser	Lys	65	70	75	80
Leu	Trp	Asn	Asn	Arg	His	Ala	Pro	Glu	His	Val	Glu	Pro	Ala	Leu	Asp	85	90	95	
Glu	Thr	Leu	Lys	Glu	Leu	Gly	Leu	Ser	Tyr	Leu	Asp	Leu	Tyr	Leu	Ile	100	105	110	
His	Trp	Pro	Val	Ala	Phe	Lys	Phe	Thr	Thr	Pro	Asp	Glu	Leu	Leu	Pro	115	120	125	
Ala	Asp	Pro	Thr	Asn	Lys	Asp	Leu	Ala	Tyr	Val	Asp	Asp	Ser	Val	Lys	130	135	140	
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Val	Glu	Glu	Ala	Ser	Gly	Glu	Arg	Pro	Ala	Val	Asn	Gln	Ile	Glu	Ala	180	185	190	
His	Pro	Leu	Leu	Gln	Gln	Asp	Glu	Leu	Val	Ala	His	His	Lys	Ser	Lys	195	200	205	

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